VALIDITY OF MUSCLE LAB BY FOTOGRAMETRY

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Introduction: The Muscle Lab is usually used for mesure power in Strenght Exercises but no in WeightLifting Exercises. The aim of the study was to check the validity of the Lineal Encoder of the Muscle Lab Bosco System with fotogrametry, in the Snatch technique.

Method: The encoder was placed in roof for measuring the Snatch technique of four weightlifters from the Vallecas Weightlifting Club. Weightlifters performed 5 sets of one repetition in progression, from 50% 1RM to 95% 1RM resting 5 minutes. The lifts were measured with Muscle Lab and with one camera placed in left side to 9,5 m following Garhammer protocol (Garhammer, 1993). A t Student and a Bland & Altman (Bland et al., 1986) analysis was performed for statistical data.

Results: Significant differences were found in two methods. The correlation between variables was good (r=0,9-0,99), but t-student showed significant differences (p<0,01). Error from 7% to 15% was found between two methods.

Discussion: According to results Muscle Lab’ Encoder overestimates bar velocity and position and is only comparable with itself.

Conclusions: Muscle Lab’ Encoder has not validity for measuring bar velocity and position in weightlifting.

References:

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